

Remarks/Arguments

With reference to the Office Action of November 23, 2004, Applicants offer the following remarks.

Status of the Claims

Applicants have significantly amended the claims to particularly point out and characterize their claimed invention. This represents a sincere, good faith effort to advance the prosecution of this Application. Entry thereof is proper.

Applicants have amended independent claims 1 and 8, and dependent claims 3, and dependent claims 8-10. Applicant has cancelled independent claim 7 and dependent claim 4, 5, 7, and 11.

Applicants have reduced the number of claims from 12 to 7, and the number of independent claims from 3 to 2.

The Office Action of November 23, 2004

Claims 1-4, 6-10, and 12 were rejected under 35 USC §102(e) as anticipated by U.S. Patent 6,704,269 to Ogawa et al.

Claims 5 and 11 were objected to as being dependent upon a rejected base claim, but were indicated as being allowable if rewritten in independent claim including all of the limitations of the base claim and all intervening claims.

In this regard Applicants have amended independent claim 1 to include the limitations of claim 5 and all intervening claims, and have amended independent claim 8 to include the limitations of claim 11 and all of the intervening claims.

Claims 1-4, 6-10, and 12 were rejected under 35 USC §102(e) as being anticipated by US 6,704,269 to Ogawa et al. It is stated that the independent claims (1 and 8) read on the Orange Standard Book for optical disks where the disk type (format) is determined, then the disk rotational speed is set based on a control signal. It is stated that Ogawa et al. disclose the use of determining the disk type (format) then based on a stored value in a table, the disk rotational speed is set as show at column 10, lines 13-46¹.

With respect to claims 2-4, 6, 9, 10, and 12, it is stated that the claims read on storing the disk rotational value into a memory (table) as shown in Figure 1, elements 28, 32, and 34. Figure 1 is described at column 9, line 60, to column 10, line 27².

¹ Further, in FIG. 1, a recording strategy storing section 34 has prestored therein various recording strategies (time variation patterns, recording laser power levels, etc.) each for generating recording pulses of FIG. 2 in settings as dictated by any one of Tables 1-5 above and in accordance with a combination of the disk type, linear velocity and selected recording speed. In this recording strategy storing section 34, there are also prestored optimum target pit depth parameter values .beta. (corresponding to those of Table 6) which become smaller as the recording speed is increased. Recording strategy selecting section 36 reads out, from the storing section 34, one of the recording strategies which corresponds to the disk type, linear velocity and selected recording speed input to or detected by the optical disk recording apparatus. In accordance with the read-out recording strategy, a control section 38 controls the recording signal modification circuit 26 to modulate the respective lengths of pit-forming and land forming segments of the recording signal. The control section 38 also carries out the so-called OPC control to calculate recording laser power levels capable of achieving the optimum target pit depth parameters .beta. determined for the individual recording speeds and store these calculated recording laser power levels in memory as target recording laser power values. In actual recording, the control section 38 controls the laser generator circuit 25 so as to set the recording laser power irradiation to the target recording laser power value predetermined for the selected recording speed. The control section 38 also controls the disk servo circuit 16 so that the spindle motor 12 is set to the rotation speed corresponding to the selected recording speed. In the above-described manner, desired recording is performed on the optical disk 10. Note that others details than the above-mentioned are set in accordance with the standard of Orange Book II, Vol. 3.0.

² Further, FIG. 1 is a block diagram explanatory of various control performed by the system controller 19 of FIG. 21. In FIG. 1, a recording speed setting section 28 corresponds to the input device 28 of FIG. 21, which sets a recording speed (x1, x2, x4, x6, x8, . . .) selected by the human operator. Disk type/linear velocity identifying section 32 identifies a type and linear velocity of the optical disk 10 installed in the optical recording apparatus. The disk type can be identified, for example, from disk type information included in various pieces of ID information pre-recorded on the optical disk 10; alternatively, disk-type selecting switches may be provided so that information representative of the disk type may be entered manually by the user selectively manipulating any of these switches. The linear velocity can be identified by reading out a recording time (63 minutes, 74 minutes or another time between these) registered, for example, as part of the ATIP signal in the disk's lead-in area and then determining a linear velocity corresponding to the recording time (1.4 m/s for the 63-minute type, or 1.2 m/s for the 74-minute type), or from an encoder output of the spindle motor.

Further, in FIG. 1, a recording strategy storing section 34 has prestored therein various recording strategies (time variation patterns, recording laser power levels, etc.) each for generating recording pulses of FIG. 2 in settings as dictated by any one of Tables 1-5 above and in accordance with a combination of the disk type,

Claims 5 and 11 were objected to as being dependent on rejected base claims, but were indicated as being allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

In response, Applicants have amended independent claim 1 to include the limitations of claim 5 and all intervening claims, and have amended independent claim 8 to include the limitations of claim 11 and all of the intervening claims.

The Art of Record

The sole reference, U.S. Patent 6,704,269 to Ogawa et al. describes, generally, obtaining a pit length of a desired length by controlling a laser power irradiation time to have a length of $(n-K)T + \Delta 3T$. The term nT represents the length of a pit to be formed, K is a constant and $\Delta 3T$ represents an extra laser power value for addition to recording of a $3T$ pit.

Ogawa et al. disclose their control section also performs control for imparting an additional top power pulse to an initial part of each pit-forming laser power irradiation. This is said to increase the level of the laser power above a standard recording power level temporarily for a predetermined time period during the irradiation.

Ogawa et al. disclose that the K and $\Delta 3T$ values and the level of the additional top power pulse are optimized for each selected recording speed. This is disclosed to always achieve optimum reproductive characteristics of signals recorded on media of a specific chemistry, that is, cyanine-based or phthalocyanine-based optical disks, and to do so at any selected recording speed.

linear velocity and selected recording speed. In this recording strategy storing section 34, there are also prestored optimum target pit depth parameter values β . (corresponding to those of Table 6) which become smaller as the recording speed is increased. Recording strategy selecting section 36 reads out, from the storing section 34, one of the recording strategies which corresponds to the disk type, linear velocity and selected recording speed input to or detected by the optical disk recording apparatus.

Applicants' Claimed Invention

At a high level Applicants' claims are directed to an information processor for reading out or writing information from or to a disk drive. The claims recite a system that includes

- a) disk drive means for driving a disk,
- b) access means for reading out or writing information from or to the disk,
- c) control means for controlling the disk drive means, and
- d) a disk controller.

The claimed disk controller includes means for storing a table of information.

The method includes the steps of:

- a) driving said disk drive at a set drive speed;
- b) acquiring format identification information from information recorded on the disk itself;
- c) setting the drive speed using the table in which the format identification information and the drive-speed information are correlated with each other; and
- d) determining the drive-speed information from a quantity of accessing the disk by use of the table; and
- e) transmitting drive-speed information for the disk drive, where the drive speed information is determined from the acquired format identification information.

Claim 1 and claim 8 have been amended substantially in parallel. Claim 1 is shown below:

In an information processor for reading out or writing information from or to a disk drive, a method of controlling said disk drive, which includes disk drive means for driving a disk, access means for reading out or writing information from or to said disk, control means for controlling said disk drive means, and a disk controller including means for storing a table of information, comprising the steps of: driving said disk drive at a set

drive speed; acquiring format identification information from information recorded on said disk setting said drive speed using said table in which said format identification information and said drive-speed information are correlated with each other and further including determining said drive-speed information from a quantity of accessing said disk by use of said table; and transmitting drive-speed information for said disk drive, determined from said acquired format identification information.

Applicants have amended their claims to include the ultimate limitations of the allowable dependent claims. Specifically, Applicants have amended independent claim 1 to include the limitations of claim 5 and all intervening claims, and have amended independent claim 8 to include the limitations of claim 11 and all of the intervening claims.

Discussion

The overarching issue is presenting independent claims that carrying the limitations of dependent claims 5 and 11, including the rejected base claims and the intermediate claims.

Claims 5 and 11 were objected to as being dependent on rejected base claims, but were indicated as being allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

In response, Applicants have amended independent claim 1 to include the limitations of claim 5 and all intervening claims, and have amended independent claim 8 to include the limitations of claim 11 and all of the intervening claims.

Conclusion

Based on the above discussion, it is respectfully submitted that the pending claims describe an invention that is properly allowable to the Applicants.

If any issues remain unresolved despite the present amendment, the Examiner is requested to telephone Applicants' Attorney at the telephone number shown below to arrange for a telephonic interview before issuing another Office Action.

Applicants would like to take this opportunity to thank the Examiner for a thorough and competent examination and for courtesies extended to Applicants' Attorney.

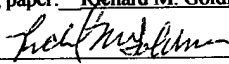
Respectfully Submitted

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